[redacted]

August 31, 1965

Ref: 11/PL182

Declass Review by NGA.

[redacted]

Reference: Contract No.

Subject: Increase in Scope

Gentlemen:

This is to inform you that [redacted] believes that the cost to be expended within the next 60 days when added to the cost previously incurred will exceed 75% of the estimated contract cost. STAT

Cost as of July 31, 1965
Estimated cost for August, 1965
Estimated cost next 60 days
Estimated cost as of end October, 1965
Estimated target contract cost

[redacted] → (1) STAT

Estimated amount of contract cost expended as of end of October, 1965 = 79%

The severity of the problem however is better understood when the open commitments as of July 31, 1965 are added to the estimated cost of the end of October, 1965.

Estimated cost as of end of October, 1965
Open commitment as of July 31, 1965
Estimated cost as of end of October plus open commitment

[redacted] → (2) STAT

This would, therefore indicate that [redacted] could exceed the current target contract cost sometime during the month of October, 1965. STAT

[redacted] STAT

Printer No. 1

The proposed Increase In Scope for Printer No. 1, Contract Duplicating and Reseau Printer, amounts to [redacted]. The delivery extension required to accommodate this change is two months. The increase in scope for Printer No. 1 is divided into two (2) categories as specified below.

1. [redacted] requested from the Technical Monitors, typical film samples to illustrate the range of densities to be encountered (minutes of meeting, 17 August 1964). This information would have facilitated the design of the frame separation sensing mechanism. The second monthly letter report (10 September 1964) reiterated this request, emphasizing its urgency.

Typical film samples have not yet been received; values for density ranges were received in July, 1965. In the meantime, a frame separation sensing unit was developed. This unit is satisfactory for most negatives but requires frequent adjustment for various densities of positive materials. On this basis and after studying the typical density data furnished by the Technical Monitors, it is concluded that the frame separation sensing design, as originally conceived, will not provide the desired results with positive film. The design effort to achieve these desired results represents an increase in scope amounting to [redacted] including an 8% fee (Attachment 1). The increase in scope was incurred by delay in receipt of appropriate design data from the Technical Monitors. It is expected that an additional period of two months beyond the target delivery date will be required because of this delay, and the excessive delay in obtaining approval of the design plans.

2. The second item is the [redacted] request for an increase in estimated cost for the purchase of an additional clear glass platen and a Reseau glass platen, plus the binding frames for each. The purchase of these items ~~were~~ was at the instruction of the Technical Monitor and the dollar amounts were specified in [redacted] dated 23 July 1965.

Summary of Increase In Scope, Printer No. 1

Frame Separation Sensing
Additional Platens [redacted]

Printer No. 2

In accordance with [redacted] dated 14 June 1965, [redacted] has reviewed the Revised Technical Specification for Printer No. 2, High Resolution Step and Repeat Printer and herein submits our request for an Increase In Scope. The total dollar increase including 8% target fee amounts to [redacted]

The delivery extension required to accommodate these changes is one (1) additional month. (1)

The Increase in Scope has been divided into seven (7) separate categories as delineated below.*

RFI

The original specification required that the equipment be equipped with proper suppression of radio interference in accordance with the requirements of MIL-I-11748 and the revised specification calls for reasonable efforts to reduce RFI. [redacted] recognized this change as of March 1, 1965 and therefore stopped the original planned effort; having already completed the feasibility study and two months of the breadboard stage.

1. RFI changes
   A. Original specification 2.23.6
   B. Revised specification 2.23.6

2. Dollar effect (Attachment No. 2)
   A. Entire original effort [redacted]
   B. Effect on contract -- [redacted]

Color Printing and Paper Accommodation

The original specification stated that color printing was a secondary objective and the accommodation of opaque color print materials and black and white opaque print materials were requirements; these have been deleted in the revised specification. [redacted] recognized these changes at the beginning of the contract, therefore expended no effort in this direction.

1. Color Printing changes
   A. Original specification 2.1.1.
   B. Revised specification 2.1.1.

*Original and revised specifications referenced herein are included in Attachment No. 10.

2. Paper Accommodation Changes
   A. Original specification 2.4.6
   B. Revised specification 2.4.6

3. Dollar effect (Attachment No. 3)
   A. Entire original effort
   B. Effect on contract --d

STAT

Film Coding

The original specification called for a feasibility study to develop a concept for applying frame marking or coding of selected negative frames. This study was completed and submitted as part of the Feasibility Study Report. [redacted] then breadboarded a device for reading coded film. The revised specification eliminates the use of coded film. [redacted] recognized this change as of May 1, 1965, therefore stopping efforts then in progress.

STAT
STAT

(1)

1. Film Coding Changes
   A. Original specification 2.1.3
   B. Revised specification 2.1.3

2. Dollar effect (Attachment No. 4)
   A. Entire original effort
   B. Effect on contract -- d

STAT

Viewer and Mask

The original specification specified a fully automatic machine, where visual access to the film was not required during operation and prohibited edge masking along the width of the film. The revised specification requires the additional capability of viewing the frame to be printed and specifies the use of adjustable edge masking.

1. Viewer changes
   A. Original specification -- viewer was not required
   B. Revised specification 2.1.3, 2.27

2. Mask changes
   A. Original specification 2.5
   B. Revised specification 2.5

3. Dollar effect (Attachment No. 5)
   A. Increase

STAT

STAT [redacted]

Transport

The transport portions of the original specification have been modified by the revised specifications as listed below.

Specification changes

1. Frame length has been changed from $2\frac{1}{2}$" to 5". (1)
   A. Original specification 1.1, 2.5
   B. Revised specification 1.1, 2.5

2. The deletion of the code reading requirement necessitated the incorporation of operator frame selection to be implemented by (1) frame separation sensing (2) footage counters (3) frame counter (4) slew control.
   A. Original specification 2.1.3
   B. Revised specification 2.1.3

3. Dollar effect (Attachment No. 6) (2)
   A. Increase [redacted]

Electronic Controls

Because of the high operating speed of the code sensing devices necessary to comply with the original film coding specification, solid state circuitry was incorporated in the original machine concept and design. All of these solid state circuits are now not required because of elimination of the code sensing and external programming features. Electromechanical designs have been substituted in some cases for the original solid state designs. (3)

Complete redesign of the control panel was necessary to accommodate the changes delineated herein; this includes re-evaluation by [redacted]

We have also included removal of the time delay circuit necessitated by the variable printing rate requirement in the original specification and removal of the heavy duty motors and mounts required for the 1000' spools dictated by the original specification (the revised specification requires 500' spool drive). (4)

[redacted] recognized these changes as of May 1, 1965, therefore altering the program. (5)

1. Frame Selection changes
   A. Original specification 2.1.3
   B. Revised specification 2.1.3

2. Control Panel changes
   A. Original specification 2.22
   B. Revised specification 2.22

3. Printer Controls changes
   A. Original specification 2.22.2
   B. Revised specification 2.22.2

4. Printer Rate changes
   A. Original specification 2.6
   B. Revised specification 2.6

5. Film Length changes
   A. Original specification 2.4.2
   B. Revised specification 2.4.2

6. Dollar effect (Attachment No. 7)
   A. Entire original effort [redacted] STAT
   B. Credit Portion of change [redacted] STAT
   C. Additional requirement [redacted] STAT
   D. Effect on contract -- increase [redacted] STAT

Interior Environment

Originally, temperature and humidity requirements for the interior of the equipment were to be satisfied by air conditioning of the printer. The revised specification spells out a room environment for the machine in which air conditioning of the printer is not required. (1)

1. Interior Environment changes
   A. Original specification 2.3.2
   B. Revised specification 2.3.2

2. Dollar effect (Attachment No. 8)
   A. Entire original effort [redacted] STAT
   B. Credit Portion of change [redacted] STAT
   C. Net effect on contract -- decrease [redacted] STAT

Additional Industrial Design

The revised specification requires additional industrial design services [redacted] to provide the new industrial design concept based on the need for a viewer. (2) STAT

1. Dollar effect (Attachment No. 9)
   A. [redacted] STAT

[redacted]

Summary of Increase in Scope
Printer No. 2

ATTACHMENT # 2 RFI
3 Color Printing and Paper Accommodation
4 Film Coding
5 Viewer and Mask
6 Transport
7 Electronic Controls
8 Interior Environment
9 Additional Industrial Design

[redacted] STAT

STAT In conclusion, [redacted] has herewith submitted our proposal for the Increase in Scope, covering both Printers No. 1 and No. 2. [redacted] increase in STAT target fee, and will permit successful completion of the subject contract.

This proposal will remain firm for a period of sixty (60) days and will be subject to change or confirmation thereafter.

Should any additional information be required, please contact [redacted] STAT

STAT [redacted]

Very truly yours,

[redacted] STAT

Assistant Vice-President
Systems Development Division

Next 8 Page(s) In Document Exempt

Approved For Release 2005/05/20 : CIA-RDP78B04770A001600010042-9

Attachment 10
Referenced Specifications
Printer #2

Revised Specifications Dated 21 May 65	Original Specifications Dated 16 Dec. 1963
1.1 Scope-- These performance requirements cover a high-precision, automatically operated, step and repeat contact roll printer, capable of producing photographic exposures of the highest possible quality, resolution, and acutance from roll film widths varying from 70 mm to $9\frac{1}{2}$ inches in any selected frame lengths from 5 inches up to a maximum of 30 inches.	1.1 Scope--These performance requirements cover a high-precision, automatically operated, step and repeat contact roll printer, capable of producing photographic exposures of the highest possible quality, resolution, and acutance, from roll film widths varying from 70 mm to $9\frac{1}{2}$ inches in any selected frame lengths from $2\frac{1}{4}$ inches up to a maximum of 30 inches.
2.1 General--The automatic step and repeat contact printer specified herein shall be an electrically operated, single-unit, enclosed, darkroom loading, daylight operating floor model requiring no installation other than connection to an electric power source and to an external exhaust vent. The principal use of the printer will be to produce duplicate contact prints on roll film from aerial roll negatives.	2.1 General--The automatic step and repeat contact printer specified herein shall be an electrically operated, single-unit, enclosed, daylight-operating floor model requiring no installation other than connection to an electric power source. The principle use of the printer will be to produce duplicate contact prints on roll film from aerial roll negatives.
2.1.1 The prime objective of this development is to produce a printer capable of the maximum modulation transfer function, in terms of the modulation transfer characteristics of the reproduction material, with a reasonably high recycling rate and an operating flexibility to permit multiple exposures from a single negative frame and selective printing of single frames.	2.1.1 The prime objective of this development is to produce a printer capable of the maximum modulation transfer function, in terms of the modulation transfer characteristics of the reproduction material, with a reasonably high recycling rate and an operating flexibility to permit multiple exposures from a single negative frame and selective printing of single frames. A secondary objective is to print color transparencies and opaque color prints from original color transparencies.

Referenced Specifications

Revised Specifications	Original Specifications
2.1.3 Frame Selection--The printer shall be designed so the operator, by the proper setting of appropriate controls, may cause the negative film to be transported any required distance, up to 500 feet to stop automatically in the proximity of the desired frame. It shall also be possible to cause the negative film to be transported automatically to any desired frame on the negative. Methods of implementing these features should include, but not be limited to, (1) frame separation sensing, both with and without a "not to exceed" distance for use in case of "butted" or overlapped frames; (2) a four-digit footage counter, with a provision for starting from zero or any other number as a datum on the footage counter; (3) a frame counter, where the operator presets, by switches or similar means, the number of frames to be indexed starting with zero or any other number as a datum on the frame counter; or (4) a normal slew control which transports the film only while the operator actuates the control. The printer shall also permit visual verification of the entire frame by the operator.	2.1.3 Negative Frame Coding--An optional system shall be devised for applying appropriate and removable frame marking or coding of selected negative frames. This coding or marking system shall be keyed to the printer in such a manner that the printer will print those frames only and exclude the printing of those not marked or coded.
2.3.2 Interior Environment--The cabinet shall be pressurized with filtered air to prevent entry of dust particles. Input air shall be filtered to a particle size not greater than 0.3 micron in diameter. The printer will operate properly in a room environment of approximately 70° to 80° F and a relative humidity of 55% to 70%.	2.3.2 Interior Environment--The cabinet shall be pressurized with filtered air to prevent entry of dust particles. Input air shall be filtered to a particle size not grea than 0.3 micron in diameter. Temperature and humidity within the cabinet shall be maintained at 70° ± 2°F. and 50% ± 5% relative humidity in an outside environment of approximately 70° to 80°F. and relative humidity of 40% to 70%.
2.4.2 Film Lengths--Film rolls up to 500 feet of negative film and print film, respectively. It shall be a design objective to handle film rolls up to 1,000 feet.	2.4.2 Film Lengths--Film rolls up to 1,000 feet of negative film and print film respectively.

Revised Specifications	Original Specifications
2.4.6 Paper Accommodation--Deleted	2.4.6 Paper Accommodation--The printer shall also accommodate standard weight opaque color print materials and single weight B&W print materials. The sizes and lengths shall be as specified above. This requirement, however, shall not compromise satisfaction of the prime requirements set forth for transparency materials.
2.5 Print Format--The printer shall produce prints (in dynamic mode) in nominal format sizes from a minimum of $2\frac{1}{4}$ x 5 inches to a maximum of $9\frac{1}{2}$ x 30 inches, as well as selected intermediate format sizes. Masks along the width of the film may be used to eliminate edge data when so desired. The mask edge image need not be sharp, and the adjustment of the mask will be manual.	2.5 Print Format--The printer shall produce prints (in dynamic mode) in any nominal format size from a minimum of $2\frac{1}{4}$ x $2\frac{1}{4}$ inches to a maximum of $9\frac{1}{2}$ x 30 inches, as well as any selected intermediate format size. Format sizes shall in all cases include fiducial marks and edge numbering.
2.6 Printing Rate--The print rate shall be no less than 10 frames per minute, and the specified requirements for maximum quality shall be maintained. For purposes of demonstrating printing rate, a minimum output density of 0.05 above base fog shall be produced on 5427 duplicating film (processing in accordance with manufacturer's recommendation), using a uniform input density of 2.5. Resolution may be demonstrated on a high resolution firm, such as SO-105 or SO-267.	2.6 Printing Rate--The printer shall have the capability of automatic printing at any selectable rate from one (1) frame per minute (2.5 fpm) to a maximum of not less than ten (10) frames per minute, or the equivalent maximum of 25 fpm. Optional manual control of the printer cycling rate shall also be provided. Specified requirements for maximum quality and resolution shall be maintained, regardless of cycling rate.
2.22 Control Panel--The printer shall have a suitable control panel properly recessed in the cabinet enclosure but readily accessible. All controls shall be appropriately marked.	2.22 Control Panel--The printer shall have a suitable control panel properly recessed in the cabinet enclosure but readily accessible. All controls shall be appropriately marked.

Attachment 10
Referenced Specifications

Revised Specification	Original Specification
2.22.2 Printer Controls--All controls necessary for satisfactory and proper operation of the printer shall be provided. These shall include a capability for automatic multiple printing of any number of duplicate prints from one (1) to forty (40) from any selected negative frame; automatic single or multiple printing of any preset number of frames; and manual control to allow unlimited selective printing of selected frames.	2.22.2 Printer Controls--All controls necessary for satisfactory and proper operation of the printer shall be provided. These shall include a capability for automatic multiple printing of any number of duplicate prints from one (1) to forty (40) from any selected negative frame; automatic single or multiple printing of any preset number of frames; and manual control to allow unlimited selective printing of selected frames.
2.23.6 Radio Interference Suppression--All reasonable efforts will be made to reduce radio frequency interference to a minimum. Reduction of RFI will not be carried out to the extent that costs of components, design, or fabrication are greatly increased as a result. Also, the RFI reduction must not result in hampering the operation of the device or result in a reduction in the requirements for resolution and speed of operation.	2.23.6 Radio Interference Suppression--The printer shall be equipped with proper suppression of radio interference in accordance with requirements of Specification MIL-I-11748.
2.27 Full Frame Viewing--Full frame viewing of the frame to be printed will be provided.	2.27 None